



# ARKANSAS DRINKING WATER UPDATE

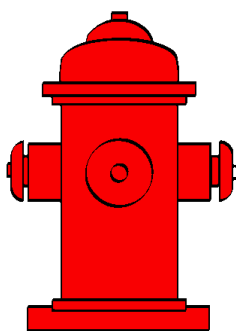
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ENGINEERING SECTION – DEPARTMENT OF HEALTH

Winter 2013

## Fire Hydrant Confusion

Jeff Stone, P.E., Director



The federal Reduction of Lead In Drinking Water Act (the Act) was enacted on January 4, 2011 and reduced the amount of lead permissible in most water system components. Specific exemptions to the law were given to service saddles, distribution

main gate valves 2-inches in diameter and larger, and other devices utilized exclusively for non-potable uses. The Act gave the waterworks industry 3 years to transition to low lead components and the requirements of this law will be in effect on January 4, 2014.

The Act did not mention fire hydrants specifically but due to the non-potable normal use of fire hydrants the waterworks industry and manufacturers had assumed that fire hydrants were not required to comply with the requirements of the Act. Confusion arose on October 22, 2013 when the Environmental Protection Agency (EPA) issued written guidance and frequently asked questions (FAQs) concerning the Act and made that guidance and FAQs available on the EPA website. Question #5 of the FAQs indicated that fire hydrants did in fact have to comply with the requirements of the Act due to the fact that fire hydrants are occasionally used for drinking water purposes under some emergency situations.

The issuance of the EPA policy and guidance during October 2013 did not provide adequate time for the industry to work through existing inventories nor did it allow time for manufacturers to provide product offerings that complied with the requirements of the Act prior to the effective date of January 4, 2014. As can be expected, the waterworks industry was not in a position to effectively comply within the short timeframe before the law becomes effective.

During the months of November and December 2013, there was a flurry of activity as the waterworks industry reacted to news that fire hydrants would be subject to the requirements of the Act. A letter, jointly signed by the American Water Works Association, the National Rural Water Association, the Association of Metropolitan Water Agencies, and the National Association of Water Companies, petitioned EPA to

revise its guidance and to indicate that fire hydrants were exempt from the requirements of the Act. EPA responded by conducting a webinar on November 25, 2013, for the purpose of receiving additional input from the industry concerning fire hydrants. During that webinar, EPA indicated that further guidance concerning fire hydrants would be forthcoming prior to the January 4, 2013 effective date of the Act.

On a separate front, Congressional House Representatives Bill Johnson of Ohio and Paul Tonko of New York sponsored HR 3588 titled "Community Fire Safety Act of 2013" which would specifically exempt fire hydrants from the requirements of the Act. HR 3588 unanimously passed both the House of Representatives and the Senate and was signed into law President Obama on December 20, 2013.

On December 20, 2013, EPA revised its guidance and indicated that fire hydrants are exempted from the requirements of the Act once the Community Fire Safety Act of 2013 is enacted (and it now has been).

Now that it is clear that fire hydrants are not required to comply with the requirements of the Act, utilities can be reassured that they can proceed to utilize their fire hydrant inventory that they have on hand. Also, fire hydrants can be repaired and reutilized as normal.

However, water systems need to remain aware that in March 2013 the National Sanitation Foundation Standard 61 was modified to cover fire hydrants under that standard. The testing protocol for NSF 61 certification will ensure that the normally wet components of the fire hydrant will not impart contaminants of concern into the drinking water system. The Arkansas Department of Health's Rules and Regulations Pertaining to Public Water Systems require that components used in public water systems be certified in accordance with NSF Standard 61. When water systems need to purchase fire hydrants to replenish their inventory, fire hydrants should be purchased that are certified according to NSF Standard 61. As of the writing of this article, at least 8 different fire hydrant manufacturers are providing products (fire hydrants) that are certified according to NSF Standard 61.

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# Critical Water License Exam Changes

Martin Nutt, Training and Certification Officer

- At present, examinees should register/schedule the exam at least 45 days prior to the desired exam session.
- Effective July 1, 2014, examinees **must** formally register/schedule the exam at least 45 days prior to the desired exam session.
- To register for an exam, the examinee must have submitted the required license application, paid required fees, and document the ability to meet the mandatory training attendance requirements by the time of examination. Failure to attend the registered exam session may result in the forfeiture of the exam fee. This change will require examinees to plan ahead to sit for exam. The program's long history of allowing examinees to just show up and sit unannounced for an exam will no longer be allowed.
- Effective July 1, 2014, scheduling of the actual exam session will significantly change. The Section has scheduled quarterly exam sessions, scheduled at six geographically dispersed exam locations, within a two-week time period. See table *Exam Session Schedule* scheduled dates and locations. Exam sessions normally held at the conclusion of all mandatory treatment and distribution courses will end June 30, 2014.
- Effective July 1, 2014, the Water Licensing Program will switch from client-customized Association of Boards of Certification (ABC) exams to the ABC national standardized exams. The exam items, also called questions, will reduce from 120 items to 100 items for all treatment and distribution exams. The very small water system exam will reduce from 70 items to 50 items. The minimum exam passing score will remain at 70 percent. The exam items style and content will not change. However, Arkansas regulation items will be removed. Federal regulations and standards will remain on the exams. The exam preparation manuals do not change. Additional information for ABC standardized exams is on ABC's internet site at: [http://www.abccert.org/testing\\_services/info\\_examinees.asp](http://www.abccert.org/testing_services/info_examinees.asp). Additional exam preparation information will be provided prior to the July 1, 2014 implementation date.
- Effective July 1, 2014, the reduction in exam items will also have a reduction in exam time to the ABC prescribed three hours. The majority of examinees complete the present exam within three hours. The reduction in exam time should have minimal impact on prepared examinees.

The above changes are necessary due to ABC policy changes requiring greater exam security and reduced support of client-customized exams. The new security measures end our ability to maintain a supply of exams. We must convert to ordering exams on an "as needed" basis. The changes also address Engineering Section concerns over staff time and travel expenses dedicated to proctoring the large number of exam sessions presently offered. Present exam sessions routinely have five or fewer examinees sitting for an exam.

Exam Session Schedule (Effective July 2014)			
Location	Fall 2014	Winter 2014	Future Exams
Lonoke	Sept 5, 2014	Dec 5, 2014	Similar exam sessions are planned for each March, June, September, and December, plus the AWW&WEA and ARWA annual conferences.
Fayetteville	Sept 5, 2014	Dec 5, 2014	
Mountain Home	Sept 5, 2014	No Exam Session	
Nashville	No Exam Session	Dec 5, 2014	
Camden	Sept 12, 2014	Dec 12, 2014	
Jonesboro	Sept 12, 2014	Dec 12, 2014	
Clarksville	Sept 12, 2014	Dec 12, 2014	
Hot Springs (ARWA)	Sept 17, 2014		

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# **Water System Mapping Available At No Cost to Water Systems**

Teresa Lee, P.E., Engineer Supervisor

The Arkansas Department of Health is able to provide small water systems with a Geographic Information System (GIS) and mapping service. This service, which began in 2009, is funded by EPA's Small System Capacity Development Program. Over 125 water systems have been mapped since the program began.

Over the years, the services provided, as well as the number of systems mapped, has grown. When the contract first began, the prerequisite for a water system to be included in the program was having a computer at the office so the data could be loaded on the hard drive. This eliminated several systems that really could benefit from knowing the location of valves. Oftentimes the operator had no access to an office computer. Besides, computers come and go and occasionally the data wouldn't get transferred. Beginning in 2010, ADH removed this requirement. The data is stored on the water system's computer, if it is available, but ADH also has a copy of the data. In 2011, we started providing the water system with a large 24" x 36" laminated map of the water system. This hard copy will be with the water system, no matter what happens to the data. In 2012, sampling sites were added to the data collection. Beginning this year, we hope to provide information for long range plans and asset management plans by collecting data on the condition of waterlines and other infrastructure.

When our contractor arrives on the job, he surveys the system with the operator and collects points. He creates data layers in ArcGIS software, and forms a geodatabase, drawing the main lines in with the operator's help to make sure he has everything noted correctly. He then creates a map for the system. If the operator has a computer, he makes the files available on ArcReader, a free version of the software, and trains the operator on how to use it.

As no water system is static, new GIS points can be added as necessary. The additional points are not provided by ADH, but once collected, the points can be added to the existing database that ADH has stored. Since the software used is ArcGIS, anyone with the software and the existing feature classes and geodatabases can modify the water

system's infrastructure data, adding sewer system information or other infrastructure, as needed.

We have had very positive feedback about this program. Many systems are asking if we can add them to our list. If you are interested in having your system mapped, please contact Greg Alexander, the Capacity Development Coordinator, at (501) 280-4023. Greg will see if you meet the criteria to be placed on our list. Some questions that will need to be answered are: How many valves do you have? How many water hydrants? How many flush hydrants? How many pump stations? How many sampling sites? How many master meters and tanks? And how many meter routes do you have? These questions allow us to calculate how long it will take and how much it will cost to GPS and map your water system.

## **Pumps and Pump Maintenance Class**

Texas A & M Engineering Extension Service will hold a second hands-on three day training session on Pumps and Pump Maintenance. This session will be held on Tuesday through Thursday, March 18 - 20, at City Water and Light's Service Yard located at 105 W. Johnson Avenue in Jonesboro. Each session begins at 8:30 a.m. There is no cost for the training.

Subject matter experts will provide instruction on pump installation, types and uses of pumps, motors and lubricants, and related safety practices. Participants will have the opportunity for hands-on exercises using the pump and motor training trailer. Additionally, participants will learn about planning, scheduling, and budgeting maintenance for pump and motor equipment.

This hands-on training includes the following topics:

- Bearings
- Hand tools
- Lubricants and lubrication
- Maintenance budgeting and cost control
- Motors
- Packing and mechanical seals and gaskets
- Planning and scheduling maintenance work
- Power transmission
- Pumps

For more information, please contact Greg Alexander at (501) 280-4023.

*20 hours of training credit toward water certification will be awarded upon completion*

# **ARwarn Sponsors Workshop; Plans for 2014**

Thad Luther, P.E., Central Arkansas Water

On September 26, 2013, the Arkansas Water and Wastewater Agency Response Network (ARwarn) and the Arkansas Rural Water Association (ARWA) sponsored a daylong emergency preparedness workshop in Lonoke. Over fifty representatives from Arkansas drinking water and wastewater utilities, the Arkansas Department of Health (ADH), Arkansas Department of Emergency Management (ADEM), ARWA, and public officials from cities and towns across the state participated in a training event that focused on preparedness and response to potential disaster incidents affecting the water sector (water and wastewater utilities).

The exercise design team led by the Horsley Witten Group, Inc., an EPA contractor, identified the following objectives for the Arkansas Water/Wastewater Agency Response Network (ARWARN) event:

1. Raise awareness of and reinforce the need for ARWARN in Arkansas.
2. Develop the relationship between ARWARN, state agencies and all levels of emergency management.
3. Discuss resource management during a WARN activation.
4. Discuss communication and coordination during a WARN activation.
5. Discuss utility generator needs, maintenance and sources.

The ARwarn training event consisted of water sector specific presentations in the morning and a facilitated tabletop exercise (TTX) in the afternoon. Immediately following the TTX, an improvement planning session was held to further discuss the key concepts raised during the training event. A facilitated hotwash was then held to encourage comments from attendees regarding their lessons learned from the training. The workshop and TTX were designed to provide participants with an opportunity to learn about the current capabilities of ARWARN, discuss resource management during an incident affecting the water sector, and identify the path forward to further develop ARWARN.

The well attended event succeeded in meeting the objectives set forth for the exercise. The Horsley Witten Group, Inc. will develop an improvement plan based on the recommendations

and comments received during the event. The improvement plan will serve as a guide to assist ARwarn in achieving their long range objectives. EPA and their consultant will be available to assist ARwarn as they work through the improvement planning process over the next nine months.

The first of three scheduled follow up teleconferences was held on December 16, 2013. Discussion focused on three primary areas, opportunities to inform stakeholders about ARwarn and recruit new members, emergency preparedness training, and redevelopment of the ARwarn website. Various tasks in these subject areas were assigned to the participants. The next progress meeting will likely take place in February 2014.

ARwarn is a network of water and wastewater utilities organized by voluntary agreements to help each other and with personnel and resources in times of disaster. The mission of ARwarn is to support and promote statewide emergency preparedness, disaster response, and mutual assistance matters for public and private water and wastewater utilities. If you are interested in becoming a member of ARwarn, please contact Thad Luther at 501-377-1220 or [thad.luther@cark.com](mailto:thad.luther@cark.com)

## **Operation and Chemical Report Forms Mailed**

During late November 2013, the Arkansas Department of Health (ADH) mailed out a 12 month supply of operation and chemical report forms to all public water systems in the state for use during the 2014 calendar year. This mailout included the various forms such as bacteriological monitoring forms, operation and chemical report forms, and individual filter monitoring forms, etc.

The ADH makes every effort to mail the correct forms to each system based upon water system type and service population. The water system bears a responsibility to be part of this process and to look over the forms when they arrive and to verify that the correct forms have been mailed to them.

If in the case that your system received the incorrect forms or if you are unsure that you have received the correct forms, the first step would be to contact your District Specialist and discuss the issue with them. If in the case an error has been made, the correct forms will be promptly sent out to the water system in question. Your District Specialist or other Engineering Section personnel can be reached at (501) 661-2623



# Consumer Confidence Reports

Teresa Lee, P.E., Engineer Supervisor

Would you like to save time *and* money? Distribute your 2013 Consumer Confidence Report to your customers online. It's free and easy, and we're here to help.

In 2012, EPA revisited the Consumer Confidence Rule and allowed water systems to distribute the Annual Water Quality Report, or CCR, to its customers using electronic methods. Out of 703 public water systems required to distribute CCRs in Arkansas last year, only 78 water systems chose to do so electronically. These systems ranged in size from the city of Bonanza serving 705 customers to Central Arkansas Water, which serves a retail population of over 300,000.

If your water system does not have a pending Public Notice to distribute, and the area you serve is also served by an internet service provider, you are eligible for electronic distribution. The Engineering Section of the Arkansas Department of Health will place each water system's CCR on our website and we will provide you with a direct web address to your report. All you need to do is put a notice on your water bill that the CCR is available online and give your customers the direct link that we provide. This notice must appear on at least two water bills with one being prior to the annual July 1 deadline. It is not necessary for you to have your own website, though you may also post it on your own site, if you wish. No formatting is necessary. All the work is being done by the Engineering Section.

The amount of money you can save will depend on the size of your water system and your current method of distribution. Jan Stewart, office manager for Stuttgart Water Works, was thrilled with the option to distribute electronically. Stuttgart saved over \$1,500.00 on printing costs and postage but also saved time and labor. Previously the men at the water plant would come to the office and fold CCRs, and then the office staff would stuff envelopes and apply labels. This extra work was avoided by posting the CCR on their website.

Tom Davis, water manager for the City of Bonanza, was excited about the results of sending his CCR out electronically last year. Not only did the city save money, but he believes more people were aware of the availability of the CCR. One year Bonanza sent out the water bill in the same envelope as the CCR. Tom said when people received their CCR, they threw it away without reading it. They were unaware that they also threw away their water

bill. Over half of his customers came in asking why they didn't get a water bill that month.

If you are interested in electronic distribution, just let us know. You can notify your customers on your water bill, even if it's the size of a postcard. For more information, please contact Doug Dawson or Tyrone Tidwell at (501) 661-2623.

## Regulation Change Progressing

Jeff Stone, P.E., Director

Proposed changes to the Arkansas Department of Health's Rules and Regulations Pertaining to Public Water Systems is progressing. The public comment period closed on October 18, 2013 and on that date a public hearing was held at the Freeway Medical Building in Little Rock. No comments were received during the public comment period and hearing.

Following the public comment period and hearing, the proposed regulation changes were "reviewed" by the Joint Senate and House Public Health, Welfare, and Labor Committee and by the Administrative Rules and Regulations Subcommittee of the Arkansas Legislative Council. The final steps in this process will be final approval by the Arkansas Board of Health and signing by the Director of the Arkansas Department of Health.

Upon final approval of the Arkansas Board of Health at their scheduled meeting on January 23, 2014, the proposed changes to the regulations will become effective on February 24, 2014.

The proposed changes stipulate that those water system components required to be "lead free" according to federal law 111-380 the "Reduction of Lead in Drinking Water Act" must be certified according to the National Sanitation Foundation Standard 61, Annex G or National Sanitation Foundation Standard 372. According to federal law 111-380, water system components utilized beginning January 4, 2014 must comply with the new lower lead content requirements if not specifically exempted from the requirements of the act. This requirement has had the most significant impact on brass and bronze components rendering old components with higher lead content unusable. Any questions concerning the proposed regulations or the requirements of the Reduction of Lead in Drinking Water Act, please contact [Jeffery.Stone@arkansas.gov](mailto:Jeffery.Stone@arkansas.gov)

# Geology & Drinking Water: Surface Water Country

Darcia Routh, P.G., Geology Supervisor

As the final installment of our series, Geology & Drinking Water in Arkansas, it's time to turn our attention to the area known as the Interior Highlands. This is predominantly Surface Water Country, where the larger community public water systems are supplied by the abundant, high quality mountain streams and associated reservoirs. The very limited groundwater—both in quantity and in quality—is contained within minor aquifers. Surface water country, as the map below shows, comprised the central west portion of the state, bounded to the SE by the Fall Line, roughly following I-30/167/67 corridor, and to the N includes the Boston Mountains. Both the River Valley and Ouachita physiographic provinces are part of the interior highlands and consist of rocks of Paleozoic age (300-420 million years ago). The public community and non-community water systems within these areas contain 77 surface intakes, 27 springs, and 315 wells. More than 1.4 million people utilize public water in surface water country.

## MINOR AQUIFER: OUACHITA MOUNTAINS AQUIFER

The Ouachita Mountains are heavily deformed folded and thrust-faulted rocks of Paleozoic age. These rocks are primarily Ordovician- to Pennsylvanian-aged marine sandstones, novaculite (a type of chert), siltstones, and shales. The Ouachita Mountains extend to the AR River Valley and include the metropolitan areas of central Arkansas. This natural division/physiographic province consists of a thick rock sequence, as much as 50,000 feet, deposited in a shallow- to deep-water ocean trench. A continent, which approached from the south some 270 million years ago, jammed the Ouachita sedimentary deposits up onto the North American continent around 245 million years ago, near the end of the Paleozoic Era. During this process, the rock layers were bent, broken, shattered, upended, and generally suffered serious disruption. The topographic expression of these deformed rocks is characterized by ridges and valleys, with trellis drainage patterns. The Ouachitas contain poor, thin soils derived mostly from the weathering of bedrock.

The Ouachita Mountain Aquifer is contained within these rocks. The USGS describes the Ouachita Mountains Aquifer as a minor aquifer containing very limited quantities of groundwater within fractured shale, chert, and sandstone. This aquifer has a north-south width of about 80 miles at the AR-OK border, and narrows progressively to the east. It spans approximately 130 miles west to east, narrowing significantly as it reaches the fall line in central Arkansas. Most wells completed in the Ouachita Aquifer yield 50 gallons per minute or significantly less, making this a poor choice for community

public supply wells. The best porosity is secondary and associated with fractures along bedding planes and these are especially well-developed along anticlines (upward folds). Fault zones, often containing milky vein quartz, also serve as preferential conduits for water flow, if the pores are not completely filled with quartz cements and/or deformation debris. Most of the joints are within 300 feet of the surface, limiting the vertical extent of groundwater availability compared to all other physiographic provinces of the state.

The thermal and cool springs around Hot Springs National Park yield large quantities of high quality groundwater from the Big Fork Chert. The national park service maintains the springs—as many as 72 were originally mapped on Hot Springs Mountain—and provides hot water to bath houses, and maintains treatment plants at Whittington and Happy Hollow cool springs. Other springs supply small community and non-community water systems and bottling plants. The alluvial deposits of the Arkansas River, sands derived from the weathering of the Paleozoic sandstones, provide groundwater to communities in the central portion of the state as well. The quantity and quality of this groundwater is generally good.

Water quality as well as quantity problems of most public supply wells originally drilled into the Ouachita aquifer have led to abandonment of wells and selection of surface water sources for community public water systems. This is particularly true of shales within the aquifer, where heavy metals, radium, iron, and manganese often cause natural contamination of the water. Many transient non-community water systems and private

**Rocks of the Ouachita Aquifer, with aquifers in bold**  
(Modified from USGS HA 730-F Groundwater Atlas)

ERA	PERIOD	STRATIGRAPHIC UNIT
PALEOZOIC	Pennsylvanian	Boggy Formation
		Savanna Formation
		McAlester Formation
		Hartshorne Sandstone
		Atoka Formation
		Johns Valley Shale
	Mississippian	Stanley Shale
	Devonian	<b>Arkansas Novaculite (chert)</b>
	Silurian	Missouri Mountain Shale
	Ordovician	Blaylock Sandstone
		Polk Creek Shale
		<b>Big Fork Chert</b>
		<b>Womble Shale</b>
		<b>Blakely Sandstone</b>
	Cambrian	Mazarn Shale
		Crystal Mountain Sandstone
		Collier Shale

domestic wells depend entirely on the Ouachita Mountain Aquifer for water supply.

Surface water quality is variable, but generally much better than groundwater in the Ouachita Mountains,

and for watershed larger than 100 square miles, base-flow sustains year-round surface water flows. Intermittent streams are common in the smaller watersheds. Some human activities pose significant risks to surface waters including mining, timber, land application of wastes, and poorly maintained septic systems.

### MINOR AQUIFER: WESTERN INTERIOR PLAINS CONFINING SYSTEM

And last, let’s consider the widespread, thick, geologically complex, poorly permeable sedimentary sequence that extends east from the Rocky Mountains to Central Arkansas, which yields little groundwater and in most cases serves rather as a confining unit, the Western Interior Plains Confining System. The confining system comprises the Boston Mountains of the Ozark Plateau and the Arkansas River Valley. The topography ranges from the rugged hills of the Boston Mountains (1000 – 2000 feet above sea level) to the low relief of the Arkansas River Valley (300-600 feet above sea level). The geologic units of the confining system are shown in the chart, below.

The Boston Mountains of Western Arkansas and Eastern Oklahoma are relatively flat-lying sedimentary rocks of Pennsylvanian and Mississippian age. They are comprised primarily of sandstones and shales, within a marine and near-shore environment. These rocks have been above sea level since that time, and subjected to around 300 million years of erosion. Streams erode deeply into the flat plateaus topped by resistant sandstone. Much of the area is National Forest and timber is the primary land use for this area. Scattered farms—including chicken production—and pastures are located throughout the area as well.

The Arkansas River Valley, located south of the Ozarks region, is floored by thick sedimentary rocks of — mostly siltstones, shale, and sandstones. This thick sequence of clastic sediments accumulated at or near sea level, and includes coal seams. The landforms include the broad floodplain of the Arkansas River and associated stream valleys and mesas lined up east-west in the fold belt of rocks more gently deformed than the Ouachita frontal thrust belt to the south. The mountains are ridges of erosion-resistant sandstones and the valleys are floored by softer shales and stream deposits derived from weathering of rocks. The spectacular Petit Jean, Mount Nebo, and Mount Magazine State Parks are all weathered synclines (structural downward) capped by resistant sandstones. The Valley remains a practical east-west travel route between the rugged Ozarks and Ouachitas, and contains population centers from Little Rock to Fort

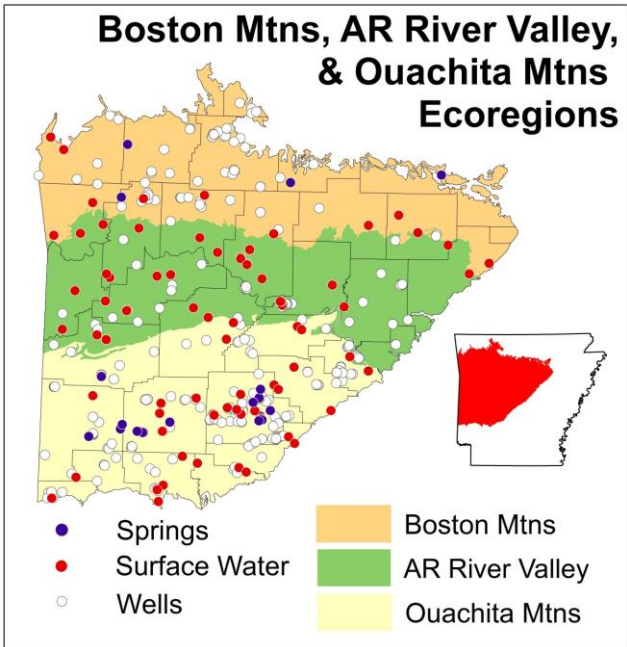
Smith and varied industries as well as extensive forests and scattered farms and pastures.

The minor aquifers within the confining system are mostly highly weathered bedrocks and soils within 300 feet of the surface. The sandstones themselves are well-cemented by iron and silica, and are not permeable. Water enters the system through direct infiltration from rain, and porosity is primarily intergranular in the weathered zone (0-300 feet). Porosity in the deeper unweathered bedrock is generally secondary and depends on fracture density. Locally, the Atoka Formation is an aquifer; however, the median yield for Atoka wells is only 9 gallons per minute. Although the water quality is variable, but generally good, typical yields of these aquifers are less than 19 gallons per minute, making them a poor choice for public supply. Most wells in the Confining System serve either domestic or

Western Interior Plains Confining System, with aquifers in bold  
(Modified from USGS HA 730-F, after Imes)

ERA	PERIOD	STRATIGRAPHIC UNIT
PALEOZOIC	Pennsylvanian	McAlester Formation Hartshorne Formation <b>Atoka Formation</b> Bloyd Shale (Brentwood Limestone Member) <b>Hale Formation</b>
	Mississippian	<b>Pitkin Limestone</b> Fayetteville Shale Batesville Sandstone Moorefield Formation

transient non-community uses. The best wells in the Arkansas River Valley are shallow wells tapping the younger alluvial sediments deposited by the Arkansas River alluvial aquifer which rest upon bedrock.





# ROUND 2

## LONG TERM 2 ENHANCED SURFACE WATER TREATMENT RULE (LT2)

Donald H. Fiegel, ADH *Environmental Specialist*

The Arkansas Department of Health is preparing for the required 2<sup>nd</sup> round of water quality sampling associated with the LT2ESWTR. EPA developed the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) to improve your drinking water quality and provide additional protection from disease-causing microorganisms and contaminants that can form during drinking water treatment. LT2 applies to drinking water that comes from surface sources (i.e. lakes, rivers, reservoirs) and to groundwater sources that are directly influenced by surface water (GWUDI).

Pathogens, such as *Giardia* and *Cryptosporidium*, are often found in surface water, and can cause gastrointestinal illness (e.g. diarrhea, vomiting or cramps) and other health risks. All surface waters require treatment to remove and or inactivate microbiological pathogens prior to delivery to customers for potable uses. *Cryptosporidium* is of significant concern in drinking water because it is resistant to typical filtration and disinfection treatment and it can and has caused waterborne disease outbreaks in other States. Consuming water with *Cryptosporidium* can cause gastrointestinal illness, which may be severe in people with weakened immune systems (e.g. Infants and the elderly) and sometimes fatal in people with severely compromised immune systems (e.g. Cancer, AIDS patients, etc.).

The purpose of the LT2 rule is to reduce disease incidence associated with *Cryptosporidium* and other pathogenic microorganisms in your drinking water. The rule applies to all public water systems that use surface water or ground water that is under the direct influence of surface water. The rule will bolster existing regulations and provide a higher level of protection of your drinking water supply by:

- Targeting additional *Cryptosporidium* treatment requirements to higher risk systems
- Providing provisions to ensure that systems maintain microbial protection as they take steps to reduce the formation of disinfection byproducts
- Requiring provisions to reduce risks from uncovered finished water storage facilities

This combination of steps, combined with the existing regulations, is designed to provide protection from microbial pathogens while simultaneously minimizing health risks to the population from disinfection byproducts.

The 1<sup>st</sup> of two rounds of source water monitoring required by the LT2 rule has been completed. The first round of monitoring in Arkansas began in January 2007 and ended in August 2013. A total of 214 *Cryptosporidium parvum* cysts were identified in the samples analyzed during this period. The distribution of positive samples was widely spread among the surface water sources in Arkansas. While the levels of occurrences were low in most instances, seven (7) systems will be required to provide an additional 1 log treatment for cryptosporidium, or Bin 2 Treatment. The LT2 rule provides a Microbial Toolbox for systems that are triggered into Bin 2 or greater treatment.

The Engineering Section of the Arkansas Department of Health is preparing for the required 2nd round of source water monitoring in the LT2. The department will be seeking a contract from a qualified laboratory to conduct the analysis and will be scheduling start dates for the different systems affected by the LT2 Rule. The LT2 rule has mandatory compliance dates when the systems must begin the second round of source water monitoring as seen in Table 1.

**Table 1. EPA LT2 Round 2 Source Water Monitoring Start Dates**

Systems that serve....	Schedule	And must begin the second round of source water monitoring no later than the month beginning....
At least 100,000 people	1	April 1, 2015
From 50,000 to 99,999 people	2	October 1, 2015
From 10,000 to 49,999 people	3	October 1, 2016
Fewer than 10,000 people and monitor for <i>E. coli</i> (filtered systems only)	4	October 1, 2017
Fewer than 10,000 and required to monitor for <i>Cryptosporidium</i>	4	April 1, 2019



Table 2 shows the proposed start dates and number of systems expected to be affected by the 2<sup>nd</sup> round of sampling. (Note: Since the ADH conducted the first round of monitoring on an early schedule and in order to conform as closely as possible with the LT2 rule's intent to have an approximate six year separation between rounds, monitoring for most systems is will begin before the mandatory start dates outlined in Table 1.)

**Table 2. Arkansas Systems Expected To Be Sampling Round 2**

SCHEDULE	APPROXIMATE # OF SOURCES	DATE TO SUBMIT SAMPLING SCHEDULE	PLANNED TO BEGIN SECOND ROUND
1	2	4/1/14	7/1/14
2	8	4/1/14	7/1/14
3	5	4/1/14	7/1/14
3	22	4/1/16	7/1/16
4 (E. coli)	70	4/1/16	7/1/16
4 (Crypto)	26	4/1/18	7/1/18

Monitoring for cryptosporidium is an expensive undertaking and involves use of an external laboratory via contracting. It is expected that this 2<sup>nd</sup> round of source water monitoring will be conducted over a 4 to 6 year period and involve a total of up to 1690 samples statewide. While the Engineering Section is ready to initiate the effort, it is likely that the Engineering Section will need to seek additional program funding in order to be able to complete this 6 year effort.

Systems required to start the 2<sup>nd</sup> round of source water monitoring will be notified by official letters from ADH. This notification will also include a request for an updated system treatment schematic. The sampling process involves both Engineering Section personnel and water system personnel. Meetings will be scheduled around the state for the required training for the 2<sup>nd</sup> round of *Cryptosporidium* monitoring. A presentation is scheduled at the 2014 AWW&WEA conference to provide training and updated information on the 2<sup>nd</sup> round. Information on LT2ESWTR can be found at EPA's website: <http://water.epa.gov/lawsregs/rulesregs/sdwa/lt2/index.cfm> or by contacting Don Fiegel ([Don.Fiegel@arkansas.gov](mailto:Don.Fiegel@arkansas.gov)), Chris Roberts ([Christopher.Roberts@arkansas.gov](mailto:Christopher.Roberts@arkansas.gov)), or Ken Bown at the Arkansas Department of Health, 501-661-2623.

## Funding For Small Fluoridation Systems and Repairs

Carol Amerine, Office of Oral Health, ADH

The Office of Oral Health, Arkansas Department of Health, would like to announce that funding is available through the office for 1) water systems who currently fluoridate and are in need of equipment repair assistance; and 2) community water systems serving less than 5,000 people (not subject to ACT 197) that need financial assistance to purchase new fluoridation equipment to begin providing fluoridated water to customers. Examples of fluoridation equipment that could be funded: pumps, scales, dry chemical feeders, appurtenances, etc. Water systems will be chosen based upon needs identified by the State Fluoridation Engineer and his team of engineers. Due to limited funding, all attempts will be made to leverage funding with potential funding sources.

For information, please contact: Carol Amerine, 501-661-2051, [carol.amerine@arkansas.gov](mailto:carol.amerine@arkansas.gov) or Glenn Greenway, 501-661-2554, [glenn.greenway@arkansas.gov](mailto:glenn.greenway@arkansas.gov).

## Staff News



Amber Heffington has joined the Engineering Section in an administrative position. Previous to joining the Engineering Section, Amber worked with the Arkansas Board of Parole.

# Major Monitoring, MCL, Treatment Technique, & Licensing Violations

Community & Nontransient Noncommunity Public Water Systems, July - September, 2013

ASP QUEEN WILHELMINA	Bmon 8	MILLTOWN-WASHBURN WATER	DBPR 7, 8, 9
AURELLE WATER SYSTEM	Bmon 7	MONTGOMERY CO REGIONAL	DBPR 7, 8, 9
BANKS WATERWORKS	DBPR 7, 8, 9	MT SHERMAN WATER ASSN	RMCL 7, 8, 9
BAUXITE	DBPR 9	NAIL-SWAIN WATER ASSN	Bmon 7
BEULAH GROVE WATER	OperLic 7, 8, 9	NORTH CARBON CITY WATER	Bmon 8, 9
BLUE MOUNTAIN	DBPR 7, 8, 9	NORTH CROSSETT	Bmon 7
WATERWORKS		OLD UNION WATER ASSN	DBPR 7, 8, 9
BODCAW RURAL WATER SYS	DBPR 7, 8, 9	PANGBURN WATERWORKS	TMCL 9
BOWSER WATER ASSN	OperLic 7, 8, 9	PERLA WATER ASSN	Bmon 9
BRANCH	DBPR 7, 8, 9	PLAINVIEW WATER	DBPR 7, 8, 9
COMPTON WATERWORKS	OperLic 7	SDM WATER ASSOCIATION	RMCL 7, 8, 9
COTTONWOOD WA	Bmon 8	SDM WATER ASSOCIATION	FMCL 7, 8, 9
DANVILLE WATERWORKS	DBPR 7, 8, 9	SOUTH MOUNTAIN WATER	RMCL 7, 8, 9
DERMOTT WATERWORKS	DBPR 7, 8, 9	ST VINCENT INFIMARY	Bmon 8
DOGWOOD WA	DBPR 8	STRONG WATERWORKS	Bmon 7
DOVER WATERWORKS	Bmon 7	VANDERVOORT WATERWORKS	Bmon 8
ELKINS WATERWORKS	Bmon 9	WABBASEKA WATERWORKS	Bmon 7
EMERSON WATERWORKS	GWR 7	WALDO WATERWORKS	GWR 7
EMERSON WATERWORKS	Bmon 7, 8	WALKER WATER ASSN	DBPR 7, 8, 9
GILLHAM REGIONAL WATER	Bmon 9	WALKERVILLE WATER ASSN	Bmon 9
DISTRICT		WATSON WATERWORKS	DBPR 7, 8, 9
GREEN FOREST	Bmon 7	WILSON GUN SHOP #2	DBPR 7, 8
WATERWORKS		WILTON	Bmon 9
HARTFORD WATERWORKS	Bmon 9		
HATFIELD WATERWORKS	Bmon 8		
HIGHFILL WATER	Bmon 8		
DEPARTMENT			
HUMNOKE WATERWORKS	OperLic 9		
HUMNOKE WATERWORKS	Bmon 9		
INDIAN SWITCH RURAL WATER	Bmon 9		
ASSN			
JASPER WATERWORKS	Bmon 8		
LAMAR WATERWORKS	Bmon 8		
MAYNARD WATERWORKS	GWR 8		
MENA WATER DEPT	DBPR 7, 8, 9		

**KEY:** Bmon = Bacti Monitoring; BMCL = Bacti MCL; Dmon = Disinfection By Product Rule Monitoring; DBPR=Disinfection By Product Rule MCL or Treatment Technique; GWRMCL=GWR Treatment Technique; GWRmon= GWR Monitoring or Reporting; Tmon = SWTR Major Monitoring; TMCL = SWTR Treatment Technique; SWTR= Various SWTR requirements; Failure to Filter; RMCL = Radiochemical MCL; FMCL = Fluoride MCL; IMCL=Inorganic Chemical MCL; SMCL = Synthetic Chemical MCL; OperLic = Operator Licensing; 7 = July 2013, 8 = August 2013, 9 = September 2013

## Did You and Your Staff Renew Water Licenses?

The 2013 license renewal efforts have concluded, except for an occasional straggler. I encourage all supervisors, and managers to verify their staff has renewed. To verify they have renewed, you may visit this website: <http://www.healthy.arkansas.gov/eng/autoupdates/operlist.htm>. It lists all currently active operators and the licenses they have current. If an operator's license is not listed then the license(s) is not active/renewed. You or the operator should contact the Water License Program to determine if license renewal is possible. Most likely, the operator can provide documentation of renewal training attended, pay the renewal fee, and renew. This action must be done before June 30, 2014. An operator short on hours can attend training now to make up the short hours.

Ultimately, it is the individual operator's responsibility to renew their licenses, not the water system. Therefore, the ADH strongly encourages all operators to verify their license(s) is renewed. Verify by checking to see if you have a wallet card with a June 30, 2015 expiration date or your license(s) is listed on the above referenced website.

Every renewal period, we have operators that learn their license was not renewed during the last renewal, and unfortunately, the deadline to fix the previous renewal has expired. This operator, to return to active status, must meet mandatory training requirements and pass the present license exam. Do not let this be you!

## Free Manuals – Water License Exam

Systems eligible for manuals are all Community Public Water Systems or Non-Community Non-Transient Public Water Systems serving a retail population of fewer than 3300 persons. The manuals, see table below, are provided to the water system, not the individual operator. The manuals are provided by the EPA Operator Certification Training Grant.

Please contact the Water Operator Licensing Program to arrange for a set of manuals. Contact us by phone at (501) 661-2623 or email at [ADH.Water.Licensing@arkansas.gov](mailto:ADH.Water.Licensing@arkansas.gov).

Reference Manuals Provided OpCert Grant Eligible Systems	Value
Water Treatment Plant Operation, Volume I, by CSU Sacramento*	\$49.00
Water Treatment Plant Operation, Volume II, by CSU Sacramento*	\$49.00
Water Distribution System Operation & Maintenance, by CSU Sacramento	\$49.00
Small Water System Operation and Maintenance, by CSU Sacramento	\$49.00
Manage For Success, by CSU Sacramento	\$49.00
Utility Management, by CSU Sacramento	\$29.00
Water System Security: A Field Guide by American Water Works Assn	\$65.00
Operator Certification Study Guide by American Water Works Association	\$59.00
Total Value of Set	\$398.00

\* Manual provided if system is required to have treatment-licensed operators.

### Retraction - Fall 2013 Newsletter

Sherman Prince, Donaldson, listed in error in the Expired Licenses Lacking Training Hours table. We apologize for any inconvenience caused by this error.

## Arkansas Water Works & Water Environment Association Annual Conference and Short School April 27 – 30, 2014

Hot Springs Convention Center, Hot Springs, Arkansas

[www.awwwea.org](http://www.awwwea.org)

Up to 16 contact hours of directly applicable water licensing training credit can be earned by attending the conference. The conference consists of two (2) full days of training with six sessions each day providing 12 concurrent training topics per session. Typically, no training topic is repeated. The exhibit hall Sunday afternoon through Tuesday morning will have water industry related companies displaying their products.

The Conference will track attendance credit hours by scanning your conference badge barcode at stations Monday and Tuesday with a morning and afternoon scan. You must scan each morning and afternoon to receive full credit.

If you are working on Mandatory Training courses for exam purposes, the Arkansas Environmental Training Academy will offer the AETA Basic Water Math course on Monday and the AETA Applied Water Math course on Tuesday. You must register for the conference through AWWWEA and the training provider to attend the courses. The ADH Public Water System Compliance course will also be offered on Tuesday. All mandatory courses start at 8:00 a.m. and end at 5:00 p.m., with a shortened lunch break. Attendance of the entire course is required to receive a course completion certificate. License Exams will be held Wednesday at 9:00 am at the convention center.

### Report Of The Arkansas Drinking Water Advisory and Operator Licensing Committee

The Arkansas Drinking Water Advisory and Operator Licensing Committee cancelled its October 10, 2013 quarterly meeting. The Committee's next scheduled meet is January 9, 2014.



# Water Operator Licenses Issued

SEPTEMBER 1, 2013 THROUGH NOVEMBER 30, 2013

LICENSEE NAME	GRADE/TYPE	WATER SYSTEM NAME
ADAMS CARL	D - IV	FAYETTEVILLE WATERWORKS
BERNDT KENNETH	D - III	EUREKA SPRINGS WATERWORKS
BRODELL BRUCE	D - IV	POCAHONTAS WATERWORKS
BURCH JANELLE	D - II	LAKEVIEW-MIDWAY PWA
CARTER KENNETH	D - I	MARION COUNTY REG WATER DIST
CHESHER JOSHUA	D - I	HARTFORD WATERWORKS
CLARK JOSH	D - III	MADISON CO WATER FACILITIES BD
CRAFT RICK	D - I	GENTRY WATERWORKS
CURTIS JIM	D - III	CENTERTON WATERWORKS
DARBY SHAWN	D - IV	BARTON LEXA WATER ASSOCIATION
DUNN JAMES	D - IV	VAN BUREN WATERWORKS
		OAK GROVE WATER ASSOCIATION
EDKIN ROGER	D - I	BULL SHOALS WATER SYSTEM
EDWARDS DARREN	D - III	CENTERTON WATERWORKS
ERSKIN JAMES	T - II	BENTON-WASHINGTON REGIONAL PWA
FITZSIMMONS CHARLES	T - IV	ARKADELPHIA WATERWORKS
FLETCHER TIMOTHY	D - I	NO PUBLIC WATER SYSTEM PROVIDED
FORD LETTIE	D - IV	BARTON LEXA WATER ASSOCIATION
FORTENBERRY JASON	D - IV	N GARLAND CO REG WATER DIST
FOSTER DUANE	D - I	ELKINS WATERWORKS
FOUTS RHONDA	D - IV	FORT SMITH WATER UTILITIES
GOODMAN ANTHONY	D - II	GUY WATERWORKS
HALE BILLY	D - IV	BLYTHEVILLE WATERWORKS
HARTLERODE WAYNE	D - II	COMPTON WATERWORKS
HAWKINS TIMOTHY	D - IV	SPRINGDALE WATER UTILITIES
HOLLOWAY LARRY	D - III	TUCKERMAN WATERWORKS
HOLMAN HARRY	T - IV	GRAND PRAIRIE REGIONAL WATER
HOOD JESSIE	T - IV	BENTON WATERWORKS
JACKSON CHERYL	D - II T - II	NO PUBLIC WATER SYSTEM PROVIDED
JONES JOSHUA	D - II	MARION COUNTY REG WATER DIST
KIRBY DARRELL	T - II	BAY WATERWORKS
KIRKENDOLL BRENT	D - III	MAUMELLE WATER MANAGEMENT
KNIGHT CHARLES	D - I	GRADY WATERWORKS
LIEBLONG WARREN	T - IV	CONWAY WATER SYSTEM
LUTZ MARK	T - II	BEEBE WATERWORKS
MAY JOSHUA	D - II	HOT SPRINGS UTILITIES
MCEARL RYAN	D - IV	N GARLAND CO REG WATER DIST
MCNABB ROBERT	D - I	ENTERGY - INDEPENDENCE
MERWORTH ANTONY	D - II	CAVE SPRINGS WATERWORKS
NGUYEN HUNG	D - IV	FORT SMITH WATER UTILITIES
PECK DARROL	D - II	COMMUNITY WATER SYSTEM
SAMS JUSTIN	D - VSS	AHTD HARRISON 9 HEADQUARTERS
SLAUGHTER MITCHELL	D - II	PARON-OWENSVILLE WATER AUTH
STAHLMAN WILLIAM	D - III	BULL SHOALS WATER SYSTEM
STUTTS JAMES	T - I	WYNNE WATERWORKS
TEDFORD CHRISTOPHER	T - IV	CONWAY WATER SYSTEM
TIPTON COLON	T - II	ENGLAND WATERWORKS
TRIBBLE SHELBY	D - II	BONO WATERWORKS
VALENTINE DOUGLAS	T - II	USFS WHITE ROCK
WARD HEATH	D - III	SPRINGDALE WATER UTILITIES
WATKINS DENNIS	D - II	YELLVILLE WATERWORKS
WEST RICHARD	D - IV	CENTRAL ARKANSAS WATER
WILLIAMS SCOTT	D - IV	SOUTHSIDE PUB WATER AUTHORITY
YANDELL KRISTOPHER	D - III	EUREKA SPRINGS WATERWORKS

# Mandatory Training Course Schedule

Most Current Listing and when available the 2014 schedule is at:  
[www.healthy.arkansas.gov/eng/autoupdates/oper/mandtrngall.htm](http://www.healthy.arkansas.gov/eng/autoupdates/oper/mandtrngall.htm).

Please contact the course sponsor to register for course well in advance of course date.  
 (Please note all mandatory courses begin at 8:00 a.m.)

Mandatory Course Name	START DATE	ENDING DATE	Time	CITY	LOCATION	SPONSOR
Basic Water Treatment	01/01/14	01/15/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Basic Water Math	01/07/14	01/07/14	8:00 AM	Arkadelphia	Recreation Center, 2555 Twin Rivers Dr.	ARWA
ADH PWS Compliance	01/08/14	01/08/14	8:00 AM	Arkadelphia	Recreation Center, 2555 Twin Rivers Dr.	ADH
Applied Water Math	01/09/14	01/09/14	8:00 AM	Arkadelphia	Recreation Center, 2555 Twin Rivers Dr.	ARWA
Basic Water Math	01/14/14	01/14/14	8:00 AM	Camden	AR Env Training Academy, 100 Carr Road	AETA
Applied Water Math	01/15/14	01/15/14	8:00 AM	Camden	AR Env Training Academy, 100 Carr Road	AETA
ADH PWS Compliance	01/16/14	01/16/14	8:00 AM	Camden	AR Env Training Academy, 100 Carr Road	ADH
Basic Water Distribution	01/16/14	01/31/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Basic Distribution	01/21/14	01/23/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Intermediate Water Distribution	01/28/14	01/30/14	8:00 AM	N Little	CAW Maryland Complex, 1500 W Maryland	AETA
Intermediate Water Treatment	02/01/14	02/14/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Basic Water Math	02/04/14	02/04/14	8:00 AM	Clarksville	CLW (Operations Bld) 710 East Main (Hwy 64	ARWA
ADH PWS Compliance	02/05/14	02/05/14	8:00 AM	Clarksville	CLW (Operations Bld) 710 East Main (Hwy 64	ADH
Applied Water Math	02/06/14	02/06/14	8:00 AM	Clarksville	CLW (Operations Bld) 710 East Main (Hwy 64	ARWA
Basic Water Math	02/11/14	02/11/14	8:00 AM	Jonesboro	Jonesboro CWL Office Training Rm, 400 E	AETA
Intermediate Distribution	02/11/14	02/13/14	8:00 AM	West Fork	Wenzel Community Center, 222 Webber	ARWA
Applied Water Math	02/12/14	02/12/14	8:00 AM	Jonesboro	Jonesboro CWL Office Training Rm, 400 E	AETA
ADH PWS Compliance	02/13/14	02/13/14	8:00 AM	Jonesboro	Jonesboro CWL Office Training Rm, 400 E	ADH
Intermediate Water Distribution	02/15/14	02/28/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Intermediate Water Treatment	02/18/14	02/20/14	8:00 AM	Lowell	Beaver Water Dist, 301 N Primrose Rd	AETA
Basic Water Treatment	02/24/14	02/26/14	8:00 AM	Burdette	Cotton Boll Technical Institute, 155 and HWY	AETA
Basic Water Distribution	02/25/14	02/27/14	8:00 AM	Russellville	Tri-County Water, 5306 N Arkansas Ave	AETA
Intermediate Treatment	02/25/14	02/27/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Advanced Water Treatment	03/01/14	03/15/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Basic Water Distribution	03/04/14	03/06/14	8:00 AM	Burdette	Cotton Boll Technical Institute, 155 and HWY	AETA
Basic Water Treatment	03/04/14	03/06/14	8:00 AM	Camden	AR Env Training Academy, 100 Carr Road	AETA
Basic Water Math (Night Class)	03/10/14	03/13/14	TBA	Fort Smith	Fort Smith Utilities, 3900 Kelly Hwy	AETA
Basic Distribution	03/11/14	03/13/14	8:00 AM	Arkadelphia	Recreation Center, 2555 Twin Rivers Dr.	ARWA
Intermediate Water Treatment	03/11/14	03/13/14	8:00 AM	Paragould	Holiday Inn Express, 3502 Linwood Dr	AETA
Advanced Water Distribution	03/16/14	03/31/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Applied Water Math (Night	03/17/14	03/20/14	TBA	Fort Smith	Fort Smith Utilities, 3900 Kelly Hwy	AETA
Basic Water Math	03/25/14	03/25/14	8:00 AM	N Little	CAW Maryland Complex, 1500 W Maryland	AETA
Basic Treatment	03/25/14	03/27/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Applied Water Math	03/26/14	03/26/14	8:00 AM	N Little	CAW Maryland Complex, 1500 W Maryland	AETA
ADH PWS Compliance	03/27/14	03/27/14	8:00 AM	N Little	CAW Maryland Complex, 1500 W Maryland	ADH
Basic Water Math	04/01/14	04/15/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Advanced Water Distribution	04/01/14	04/03/14	8:00 AM	N Little	CAW Maryland Complex, 1500 W Maryland	AETA
Advanced Distribution	04/15/14	04/17/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Applied Water Math	04/16/14	04/30/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Intermediate Treatment	04/22/14	04/24/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Basic Water Math	04/28/14	04/28/14	8:00 AM	Hot Springs	AWW&WEA Conference, HS Convention	AETA
ADH PWS Compliance	04/29/14	04/29/14	8:00 AM	Hot Springs	AWW&WEA Conference, HS Convention	ADH
Applied Water Math	04/29/14	04/29/14	8:00 AM	Hot Springs	AWW&WEA Conference, HS Convention	AETA
Basic Distribution	04/29/14	05/01/14	8:00 AM	Clarksville	CLW (Operations Bld) 710 East Main (Hwy 64	ARWA
Basic Water Treatment	05/01/14	05/15/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Advanced Treatment	05/06/14	05/08/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Intermediate Water Distribution	05/06/14	05/08/14	8:00 AM	Paragould	Holiday Inn Express, 3502 Linwood Dr	AETA
Intermediate Distribution	05/13/14	05/15/14	8:00 AM	Arkadelphia	Recreation Center, 2555 Twin Rivers Dr.	ARWA
Basic Water Distribution	05/16/14	05/31/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Basic Distribution	05/20/14	05/22/14	8:00 AM	Bono	Bono Community Center, 100 Woodland Trail	ARWA
Basic Water Math	05/27/14	05/27/14	8:00 AM	Fayetteville	Utilities Operations Center, 2435 S Industrial Dr	AETA
Applied Water Math	05/28/14	05/28/14	8:00 AM	Fayetteville	Utilities Operations Center, 2435 S Industrial Dr	AETA
ADH PWS Compliance	05/29/14	05/29/14	8:00 AM	Fayetteville	Utilities Operations Center, 2435 S Industrial Dr	ADH

<b>Mandatory Course Name</b>	<b>START DATE</b>	<b>ENDING DATE</b>	<b>Time</b>	<b>CITY</b>	<b>LOCATION</b>	<b>SPONSOR</b>
Intermediate Water Treatment	06/01/14	06/15/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Basic Water Distribution (Night	06/02/14	06/17/14	TBA	Fort Smith	Fort Smith Utilities, 3900 Kelly Hwy	AETA
Advanced Water Treatment	06/03/14	06/05/14	8:00 AM	N Little	CAW Maryland Complex, 1500 W Maryland	AETA
Basic Water Distribution	06/10/14	06/12/14	8:00 AM	Fayetteville	Utilities Operations Center, 2435 S Industrial Dr	AETA
Intermediate Distribution	06/10/14	06/12/14	8:00 AM	Clarksville	CLW (Operations Bld) 710 East Main (Hwy 64	ARWA
Intermediate Water Distribution	06/16/14	06/30/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Basic Water Distribution	06/17/14	06/19/14	8:00 AM	Camden	AR Env Training Academy, 100 Carr Road	AETA
Basic Treatment	06/24/14	06/26/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Advanced Water Treatment	07/01/14	07/15/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Basic Math	07/08/14	07/08/14	8:00 AM	Nashville	Carter Day Center, 200 Nichols Drive	ARWA
ADH PWS Compliance	07/09/14	07/09/14	8:00 AM	Nashville	Carter Day Center, 200 Nichols Drive	ADH
Applied Math	07/10/14	07/10/14	8:00 AM	Nashville	Carter Day Center, 200 Nichols Drive	ARWA
Basic Water Treatment (Night	07/14/14	07/24/14	TBA	Fort Smith	Fort Smith Utilities, 3900 Kelly Hwy	AETA
Basic Water Treatment	07/15/14	07/17/14	8:00 AM	N Little	CAW Maryland Complex, 1500 W Maryland	AETA
Advanced Water Distribution	07/16/14	07/31/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Intermediate Water Treatment	07/29/14	07/31/14	8:00 AM	Russellville	Tri-County Water, 5306 N Arkansas Ave	AETA
Advanced Distribution	07/29/14	07/31/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Basic Water Math	08/01/14	08/15/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Applied Water Math	08/16/14	08/30/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Advanced Water Treatment	08/19/14	08/21/14	8:00 AM	Lowell	Beaver Water Dist, 301 N Primrose Rd	AETA
Basic Distribution	08/26/14	08/28/14	8:00 AM	Nashville	Carter Day Center, 200 Nichols Drive	ARWA
Basic Water Treatment	08/26/14	08/28/14	8:00 AM	Paragould	Holiday Inn Express, 3502 Linwood Dr	AETA
Basic Water Treatment	09/01/14	09/15/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Intermediate Water Treatment	09/09/14	09/11/14	8:00 AM	Jonesboro	Jonesboro CWL Office Training Rm, 400 E	AETA
Basic Water Math	09/16/14	09/16/14	8:00 AM	N Little	CAW Maryland Complex, 1500 W Maryland	AETA
Intermediate Water Distribution	09/16/14	09/18/14	8:00 AM	Fayetteville	Utilities Operations Center, 2435 S Industrial Dr	AETA
Basic Water Distribution	09/16/14	09/30/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Applied Water Math	09/17/14	09/17/14	8:00 AM	N Little	CAW Maryland Complex, 1500 W Maryland	AETA
ADH PWS Compliance	09/18/14	09/18/14	8:00 AM	N Little	CAW Maryland Complex, 1500 W Maryland	ADH
Intermediate Treatment	09/23/14	09/25/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Advanced Water Distribution	09/23/14	09/25/14	8:00 AM	Hot Springs	HS Transportation Depot, 100 Broadway	AETA
Intermediate Water Treatment	10/01/14	10/15/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Basic Water Math	10/14/14	10/14/14	8:00 AM	Russellville	Tri-County Water, 5306 N Arkansas Ave	AETA
Applied Water Math	10/15/14	10/15/14	8:00 AM	Russellville	Tri-County Water, 5306 N Arkansas Ave	AETA
ADH PWS Compliance	10/16/14	10/16/14	8:00 AM	Russellville	Tri-County Water, 5306 N Arkansas Ave	ADH
Intermediate Water Distribution	10/16/14	10/31/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Advanced Distribution	10/21/14	10/23/14	8:00 AM	West Fork	Wenzel Community Center, 222 Webber	ARWA
Intermediate Water Treatment	10/21/14	10/23/14	8:00 AM	Maumelle	Wastewater Plant Training Rm, 425 B Hyman	AETA
Advanced Water Treatment	11/01/14	11/15/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Advanced Water Treatment	11/04/14	11/06/14	8:00 AM	Maumelle	Wastewater Plant Training Rm, 425 B Hyman	AETA
Advanced Water Distribution	11/16/14	11/30/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Basic Water Treatment	11/18/14	11/20/14	8:00 AM	Fayetteville	Utilities Operations Center, 2435 S Industrial Dr	AETA
Advanced Treatment	11/18/14	11/20/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Applied Water Math	12/01/14	12/15/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Basic Water Math	12/01/14	12/15/14	TBD	Internet	<a href="http://www.sautech.edu/aeta/schedule.aspx">http://www.sautech.edu/aeta/schedule.aspx</a>	AETA
Basic Water Distribution	12/02/14	12/04/14	8:00 AM	Camden	AR Env Training Academy, 100 Carr Road	AETA
Basic Math	12/09/14	12/09/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
ADH PWS Compliance	12/10/14	12/10/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ADH
Applied Math	12/11/14	12/11/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Advanced Distribution	12/16/14	12/18/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Intermediate Water Distribution	12/16/14	12/18/14	8:00 AM	Camden	AR Env Training Academy, 100 Carr Road	AETA

The most current Mandatory Training Schedule with location information is available at  
<http://www.healthy.arkansas.gov/eng/autoupdates/oper/mandtrngall.htm>



# WATER OPERATOR LICENSE EXAMINATIONS SCHEDULE

The most current Exam Schedule is at: <http://www.healthy.arkansas.gov/eng/autoupdates/oper/operexam.htm>

**You must register for the exam 45 days in advance. Call (501) 661-2623, ask for Water Licensing Program.**

Listed below are the dates and locations of examination sessions as scheduled, as of December 4, 2013. All Treatment and Distribution exam grades will be available at the sessions. Acceptable photo identification (Drivers License or equivalent) will be required to sit for an Exam. Cell phones, pagers and other electronic communication devices are not allowed. Non-Programmable calculators are allowed in exam sessions.

DATE	CITY	LOCATION	TIME
1/24/2014	Lonoke	ARWA Training Facility, 240 Dee	9:00:00
1/31/2014	N Little	CAW Maryland Complex, 1500 West	9:00:00
2/14/2014	West Fork	Wenzel Community Center, 222	9:00:00
2/21/2014	Lowell	Beaver Water Dist, 301 N Primrose	9:00:00
2/27/2014	Burdette	Cotton Boll Technical Institute, 155	9:00:00
2/28/2014	Lonoke	ARWA Training Facility, 240 Dee	9:00:00
2/28/2014	Russellville	Tri-County Water, 5306 N Arkansas	9:00:00
3/7/2014	Burdette	Cotton Boll Technical Institute, 155	9:00:00
3/7/2014	Camden	AR Environmental Training	9:00:00
3/14/2014	Arkadelphia	Recreation Center, 2575 Twin	9:00:00
3/14/2014	Paragould	Holiday Inn Express, 3502 Linwood	9:00:00
3/28/2014	Lonoke	ARWA Training Facility, 240 Dee	9:00:00
4/4/2014	N Little	CAW Maryland Complex, 1500 West	9:00:00
4/18/2014	Lonoke	ARWA Training Facility, 240 Dee	9:00:00
4/25/2014	Lonoke	ARWA Training Facility, 240 Dee	9:00:00
4/30/2014	Hot Springs	AWW&WEA Annual Conference, HS	9:00:00
5/2/2014	Clarksville	CLW (Operations Bldg) 710 East	9:00:00
5/9/2014	Lonoke	ARWA Training Facility, 240 Dee	9:00:00
5/9/2014	Paragould	Holiday Inn Express, 3502 Linwood	9:00:00
5/16/2014	Arkadelphia	Recreation Center, 2575 Twin	9:00:00
5/23/2014	Bono	Bono Community Center, 100	9:00:00
6/6/2014	N Little	CAW Maryland Complex, 1500 West	9:00:00
6/13/2014	Fayetteville	Fayetteville Operations Center, 2435	9:00:00
6/13/2014	Clarksville	CLW (Operations Bldg) 710 East	9:00:00
6/20/2014	Camden	AR Environmental Training	9:00:00
6/27/2014	Lonoke	ARWA Training Facility, 240 Dee	9:00:00
9/5/2014	Fayetteville	Fayetteville Operations Center, 2435	9:00:00
9/5/2014	Mtn. Home	Baxter Co OEM Training Facility,	9:00:00
9/5/2014	Lonoke	ARWA Training Facility, 240 Dee	9:00:00
9/12/2014	Camden	AR Environmental Training	9:00:00
9/12/2014	Jonesboro	Jonesboro CWL Office Training Rm,	9:00:00
9/12/2014	Clarksville	CLW (Operations Bldg) 710 East	9:00:00
9/17/2014	Hot Springs	ARWA Annual Conference, HS	9:00:00
12/5/2014	Lonoke	ARWA Training Facility, 240 Dee	9:00:00
12/5/2014	Nashville	Carter Day Center, 200 Nichols	9:00:00
12/5/2014	Fayetteville	Fayetteville Operations Center, 2435	9:00:00
12/12/2014	Jonesboro	Jonesboro CWL Office Training Rm,	9:00:00
12/12/2014	Camden	AR Environmental Training	9:00:00
12/12/2014	Clarksville	CLW (Operations Bldg) 710 East	9:00:00

The above exam session information is subject to change. You should confirm this information just prior to the scheduled examination period. You may confirm the session or its location by contacting your District Specialist or Engineer at (501) 661-2623. Also, the latest exam schedule information can be viewed on the Internet at:

< <http://www.healthy.arkansas.gov/eng/autoupdates/oper/operexam.htm> >

Please verify that your license application has been filed with this office and that the required exam fee for each exam has been paid. The license exams require significant preparation prior to sitting for the exam. The preparation must include extensive study utilizing the study guide and recommended reference materials. Credit for the mandatory Certification Training Courses must be obtained before taking an exam. Copies of your training documentation must be provided when registering for an exam or provide documentation of its attendance by the exam session.

Return Service Requested

PRINTED ON RECYCLED PAPER

AWW&WEA District Meetings

See also the Division's web site [www.healthyarkansas.com/eng/](http://www.healthyarkansas.com/eng/) for updates.

DATE	TIME	CITY	LOCATION	SPONSOR
<u>January 2014</u>				
2	5:30 PM	Fort Smith	Golden Corral	Western District, AWW&WEA
9	5:00 PM	Jacksonville	Community Center	Central District, AWW&WEA
9	5:00 PM	Russellville	Western Sizzlin	AR Valley District, AWW&WEA
9	5:00 PM	Pleasant Plains	Tadpole's Catfish Barn	North Central District, AWW&WEA
9	5:00 PM	Forrest City	Catfish Island	Eastern District, AWW&WEA
15	8:30 AM	Bella Vista	Riordan Hall	Northwest District, AWW&WEA
16	12:30 PM	Paragould	Grecian Steakhouse	Northeast District, AWW&WEA
21	5:00 PM	Monticello	Western Sizzlin	Southeast District, AWW&WEA
23	6:00 PM	Texarkana	Fish Creek	Southwest District, AWW&WEA
<u>February 2014</u>				
6	5:00 PM	Conway	Church of the Nazarene	Central District, AWW&WEA
6	5:30 PM	Fort Smith	Golden Corral	Western District, AWW&WEA
12	8:30 AM	Decatur	Municipal Bldg.	Northwest District, AWW&WEA
13	5:00 PM	Wynne	Kelly's Restaurant	Eastern Central District, AWW&WEA
13	5:30 PM	Russellville	Western Sizzlin	AR Valley District, AWW&WEA
13	5:00 PM	Pleasant Plains	Tadpole's Catfish Barn	North Central District, AWW&WEA
18	5:00 PM	Monticello	Cowboys	Southeast District, AWW&WEA
TBD				Northeast District, AWW&WEA
27	6:00 PM	Nashville	Carter Day Training Center	Southwest District, AWW&WEA
<u>March 2014</u>				
6	5:00 PM	Benton	Browns Country Restaurant	Central District, AWW&WEA
6	5:30 PM	Fort Smith	Golden Corral	Western District, AWW&WEA
12	8:30 AM	Rogers	Southside Church of Christ	Northwest District, AWW&WEA
13	5:00 PM	West Memphis	Southland Dog Track	Eastern District, AWW&WEA
13	8:30 AM	Russellville	Western Sizzlin	AR Valley District, AWW&WEA
13	5:00 PM	Pleasant Plains	Tadpole's Catfish Barn	North Central District, AWW&WEA
18	5:00 PM	Crossett	Country Vittles	Southeast District, AWW&WEA
TBD				Northeast District, AWW&WEA
27	6:00 PM	Camden	The River Woods	Southwest District, AWW&WEA